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CLAIMS

WHAT IS CLAIMED:

| 1 | 1. | A method for reconfiguring a signal path in a computing system including a | |
|--------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--|
| 2 | plurality of system domains, the method comprising: | | |
| 3 | detec | ting a predetermined condition triggering a reconfiguration of the computing | |
| 4 5 | recon | system; figuring a signal path affected by the condition from a first mode to a second | |
| 6 | | mode responsive to detecting the condition; | |
| 7 | leavir | ng the unaffected system domains configured in the first mode; and | |
| 8 | | ting the affected system domains in the second mode and the unaffected system | |
| 9 | 77 | domains in the first mode. | |
| 1 | 2. | The method of claim 1, wherein detecting the failure includes detecting an | |
| 2 | interconnect | failure. | |
| 1 | 3. | The method of claim 1, wherein the computing system includes at least one | |
| 2 | system control board and wherein detecting the failure includes detecting the failure from the | | |
| 3 | system contro | | |
| 1 | 4. | The method of claim 1, wherein detecting the failure includes detecting the | |
| 2 | failure from t | he affected system domain. | |
| 1 | 5. | The method of claim 4, wherein the computing system includes at least one | |
| 2 | system contro | ol board and the method further comprises notifying the system control board of | |
| 3 | | the affected system domain. | |
| 1 | 6. | The method of claim 1, wherein detecting the failure includes detecting the | |
| 2 | failure during | first operations. | |
| 1 | 7. | The method of claim 1, wherein detecting the failure includes detecting the | |
| 2 | failure upon reset. | | |
| 1 | 8. | The method of claim 1, wherein configuring the affected system domains | |
| 2 | includes: | | |
| 3 | config | uring a first switch in a first affected domain defining a first end of the affected | |

signal path from the first to the second mode;

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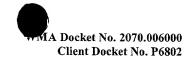
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configuring a crossbar switch defining a second end for the affected signal path from the first mode to the second mode. 9. The method of claim 1, wherein the computing system includes a system control board and configuring the affected system domains includes configuring the system domains from the system control board. 10. The method of claim 1, wherein: operating the unaffected system domains in the first mode includes separating a plurality of information in each transaction into two messages and transmitting the two messages in parallel, each on a respective half of the signal paths; and operating the affected system domains in the second mode includes transmitting the messages in series on a single half of the affected signal path. 11. The method of claim 1, wherein: operating the unaffected system domains in the first mode includes separating a plurality of information in each transaction into two messages and transmitting the two messages in parallel in a predetermined number of cycles: and operating the affected system domains in the first mode includes transmitting a plurality of information in each transaction in a single message in twice the predetermined number of cycles. 12. The method of claim 1, further comprising at least one of: defining the system domains: pausing operations after detecting the failure but before reconfiguring the affected system domain; and resetting the computing system after detecting the failure but before reconfiguring the affected system domain. 13. The method of claim 1, wherein dynamically reconfiguring a signal path affected by the condition from a first mode to a second mode includes dynamically reconfiguring the signal path affected condition from a normal mode to a degraded mode.

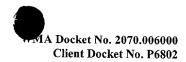
affected by the condition from a first mode to a second mode includes dynamically

reconfiguring the signal path affected condition from a degraded mode to a normal mode.

The method of claim 1, wherein dynamically reconfiguring a signal path

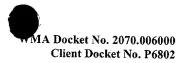
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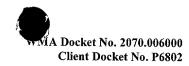


| 2 | plurality of system domains, the method consisting essentially of: | | |
|---|----------------------------------------------------------------------------------------------|--|--|
| 3 | detecting a condition triggering a reconfiguration of the computing system; and | | |
| 4 | reconfiguring a signal path affected by the condition from a first mode to a second | | |
| 5 | mode responsive to detecting the condition; and | | |
| 6 | operating the affected system domains in the second mode and the unaffected system | | |
| 7 | domains in the first mode. | | |
| 1 | 16. A method for reconfiguring a signal path in a computing system including a | | |
| 2 | plurality of system domains, the method comprising: | | |
| 3 | detecting a condition triggering a reconfiguration of the computing system; and | | |
| 4 | reconfiguring a signal path affected by the condition from a first mode to a second | | |
| 5 | mode responsive to detecting the condition; | | |
| 6 | operating the affected system domains in the second mode and the unaffected system | | |
| 7 | domains in the first mode. | | |
| 1 | 17. A computing system, comprising: | | |
| 2 | a plurality of system domains; | | |
| 3 | a centerplane interconnecting the system domains; | | |
| 4 | a system controller capable of detecting a condition triggering a reconfiguration and | | |
| 5 | reconfiguring a signal path affected by the condition from a first mode to a | | |
| 6 | second mode. | | |
| 1 | 18. The computing system of claim 17 wherein the system domains are | | |
| 2 | 18. The computing system of claim 17, wherein the system domains are dynamically configured. | | |
| | -y | | |
| 1 | 19. The computing system of claim 17, wherein each system domain includes: | | |
| 2 | a system board; | | |
| 3 | an expansion board; and | | |
| 4 | an I/O board. | | |
| 1 | 20. The computing system of claim 19, wherein the system board, expansion | | |
| 2 | board, and I/O board comprise a system board set. | | |
| | | | |

A method for reconfiguring a signal path in a computing system including a



| 1 | 21. The computing system of claim 17, wherein the centerplane comprises a | |
|--------|----------------------------------------------------------------------------------------------|--|
| 2 | plurality of crossbar switches interconnecting the system domains. | |
| 1 | 22. The computing system of claim 21, wherein the plurality of crossbar switches | |
| 2 | includes: | |
| 3 | a data crossbar switch; | |
| 4 | an address crossbar switch; and | |
| 5 | a response crossbar switch. | |
| 1 | 23. A computing system, comprising: | |
| 2 | a plurality of system domains; | |
| 3 | a plurality of signal paths among the system domains; and | |
| 4 | a system controller capable of condition triggering a reconfiguration and dynamically | |
| 5 6 | reconfiguring a signal path affected by the condition from a first mode to a second mode. | |
| 1 2 | 24. The computing system of claim 23, wherein the system domains are dynamically configured. | |
| 1 | 25. The computing system of claim 23, wherein each system domain includes: | |
| 2 | a system board; | |
| 3 | an expansion board; and | |
| 4 | an I/O board. | |
| 1 | 26. The computing system of claim 25, wherein the system board, expansion | |
| 2 | board, and I/O board comprise a system board set. | |
| 1 | 27. The computing system of claim 23, wherein the centerplane comprises a | |
| 2 | plurality of crossbar switches interconnecting the system domains. | |
| 1 | 28. The computing system of claim 27, wherein the plurality of crossbar switches | |
| 2 | includes: | |
| 3 | a data crossbar switch; | |
| 4 | an address crossbar switch; and | |
| 5 | a response crossbar switch. | |
| | | |



| ı | 29. The computing system of claim 23, wherein the plurality of signal paths | | |
|----|--------------------------------------------------------------------------------------------------|--|--|
| 2 | includes: | | |
| 3 | a plurality of data signal paths; | | |
| 4 | a plurality of address signal paths; and | | |
| 5 | a plurality of response signal paths. | | |
| 1 | 30. The computing system of claim 23, wherein each signal path comprises: | | |
| 2 | a first half capable of transmitting a first message containing a first portion of the | | |
| 3 | information in a given transaction in the normal mode; and | | |
| 4 | a second half capable of transmitting a second message containing a second portion of | | |
| 5 | the information in the transaction in the normal mode. | | |
| 1 | 31. The computing system of claim 30, wherein both the first and second halves | | |
| 2 | are capable of transmitting a single message containing both the first and second portions in | | |
| 3 | the degraded mode. | | |
| 1 | 32. The computing system of claim 23, wherein each signal path terminates at a | | |
| 2 | first end in a first one of the system domains, routes through a crossbar switch, and terminates | | |
| 3 | at a second end in a second one of the system domains. | | |
| 1 | 33. The computing system of claim 32, wherein the system domains and the signal | | |
| 2 | paths are configurable by configuring the first end, the second end, and the crossbar switch. | | |
| 1 | 34. A computing system, comprising: | | |
| 2 | a system controller; | | |
| 3 | a plurality of system domains; | | |
| 4 | at least one crossbar switch interconnecting the system domains; | | |
| 5 | a plurality of signal paths, each signal path terminating at a first end in a first one of | | |
| 6 | the system domains, routing through the crossbar switch, and terminating at a | | |
| 7 | second end in a second one of the system domains; and | | |
| 8 | a console connection over which the system controller can, responsive to a condition | | |
| 9 | triggering a reconfiguration, reconfigure a plurality of the system domains | | |
| 10 | affected by the condition and the crossbar switch to operate the affected signal | | |
| 11 | paths in a first mode while the signal paths domains unaffected by the failure | | |
| 12 | operate in a second mode. | | |
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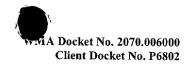
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| 35. | A computing system, | comprising: |
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a plurality of system boards from which a plurality of system domains can be defined;

- a centerplane including at least one crossbar switch interconnecting the system domains to provide a plurality of signal paths among the system boards; and
- a system control board hosting a system controller capable of defining the system

domains, configuring the system domains and the crossbar switch to operate

the signal paths in a first mode, and, responsive to a condition triggering a

reconfiguration, reconfiguring the affected system domains and the crossbar

switch to operate the affected signal paths in a second mode while the

unaffected signals paths operate in the first mode.